

# **Overview of Proposed Clean Air Act Permit to Construct Cabrillo Port**

**June 5, 2006**

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Good afternoon/evening and thank you for coming. In December 2003, BHP Billiton submitted to EPA an application for an air permit to construct Cabrillo Port, which would be a new natural gas importation terminal located off the coast of Ventura County. EPA has evaluated the application and additional information submitted by the applicant, and based on that information we prepared a draft permit. On May 4, EPA released the permit for public review and comment. We believe that public involvement is an important part of the permitting process and the reason we are here today is to listen to the comments you have on our proposed permit. Before we open the floor for comments, we would like to provide you with a brief overview of the permit we are proposing to issue.

## Agenda

- Overview of deepwater port licensing process
- Air Permitting Process
- Project Overview
- Regulatory Authority
- Overview of Proposed Permit

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This presentation is intended to provide you with a broad overview of the permitting process and the proposed permit so that if you are not familiar with the permit you will have some background information as you hear the comments from the speakers at today's hearing. I'll begin by talking about the deepwater port licensing process and how the air and water permits proposed by EPA fit into that process. Next I will quickly review the process that EPA has used to draft and propose the permit. When I am finished, Joe will provide an overview of the proposed facility and some details about the permit.

## Deepwater Port Licensing Process

- Coast Guard and Maritime Administration
  - conduct environmental review
  - issue deepwater port license
- Governor and public
- EPA
  - Permitting authority for air and water permits
  - Air permit required for construction of facility
  - Water permit needed for operational discharges
  - Pieces of the overall licensing process

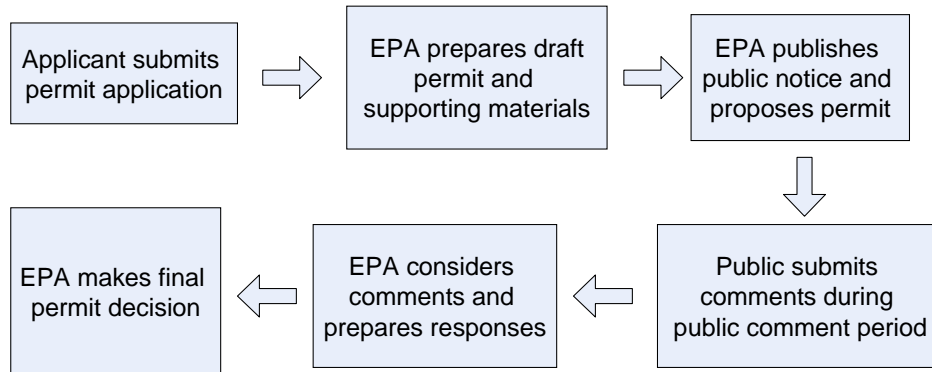
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The Deepwater Port Act establishes a licensing process for the ownership, construction, operation and decommissioning of deepwater port structures. The DWPA sets out conditions that applicants for licenses must meet, including requirements for minimizing adverse impacts on the environment. The Coast Guard and the Maritime Administration are the lead federal agencies under the licensing process. They are responsible for conducting the environmental review and for issuing or denying the deepwater port license. The Maritime Administration's procedures for processing deepwater port license applications include opportunities for public involvement and the Maritime Administration is generally prohibited from issuing a license over the disapproval of the Governor of the adjacent coastal state. If the Governor notifies MARAD that an application which would otherwise be approved is inconsistent with State programs relating to environmental protection, land and water use, and coastal zone management, then MARAD must condition the license to make it consistent with State programs.

The DWPA requires compliance with all federal requirements. In the case of Cabrillo Port, that means BHP Billiton must also obtain air and water permits from EPA. The water permit authorizes operational discharges and the air permit is required prior to construction of the facility. In that respect, the air and water permits currently proposed by EPA are separate components of the broader deepwater port licensing requirements.

We would like to remind everyone that the purpose of today's hearing is to receive comments specifically on the proposed air permit. If you have comments related to the water permit or broader environmental and safety issues, we ask that you submit them according to the procedures established by the EPA Water Division, the US Coast Guard, and the California State Lands Commission. By keeping your presentations today focused on the air permit, you can ensure that your comments are heard by the appropriate agency personnel.

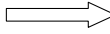


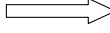
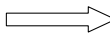
## Air Permitting Process



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This graphic shows the procedures EPA is using to process BHP's air permit application. This process begins with submittal of an application to EPA. Based on that application, EPA prepares a draft permit and supporting materials, and then proposes to issue the permit by publishing one or more public notices. This starts a formal public comment period during which any member of the public may submit comments to EPA. We are currently in the middle of the public comment period for the proposed air permit and as I said before, the purpose of today's hearing is for us to listen to your comments regarding the proposed permit. At the close of the public comment period, EPA will consider all of the public comments and prepare written responses to them. Based on all of the information submitted by the applicant and the public, EPA will make a final decision regarding issuance of the permit.

## Public Participation Timeline

- EPA proposes air permit; public comment period opens  May 4, 2006
- **Public hearing**  **June 5, 2006**
- **Public comment period closes**  **July 3, 2006**
- EPA considers public comments  To be determined
- EPA makes final decision and notifies public  To be determined
  - Direct notification, Web site, Federal Register

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Here is the current timeline for the remainder of the air permitting process. The public comment period began with publication of public notices on May 4 and 5, 2006. The proposed permit and supporting materials are currently available on our Web site, which will be provided at the end of this presentation. The public hearing is today and the public comment period is scheduled to end on July 3, 2006. That means all comments must be received or postmarked on or before that date. After the close of the public comment period, we will review the comments, prepare responses to them, and then make a final decision on the permit. The time line for the last two steps in the process is yet to be determined but we can tell you that EPA does not plan to make a final decision on our permit until the Maritime Administration and Coast Guard have completed the environmental review process and the Record of Decision has been issued. When EPA makes its final decision, we will directly notify anyone who requested to be notified and who provided us with an e-mail or postal address. You can provide that information to us on the blue registration cards at the door or on our Web site. In addition, we will post the final decision on our Web site and publish a notice in the Federal Register.

## Project Overview

- **Cabrillo Port**
  - Floating storage and re-gasification unit (FSRU)
  - two new parallel subsea pipelines
- **FSRU**
  - ship-shaped facility
  - permanently moored to the ocean floor



Conceptual drawing of FSRU

The design for Cabrillo Port consists of a floating LNG storage and re-gasification unit, or FSRU, connected to two new parallel subsea pipelines. It is a ship-shaped facility that would be permanently moored to the ocean floor.

## Proposed Location



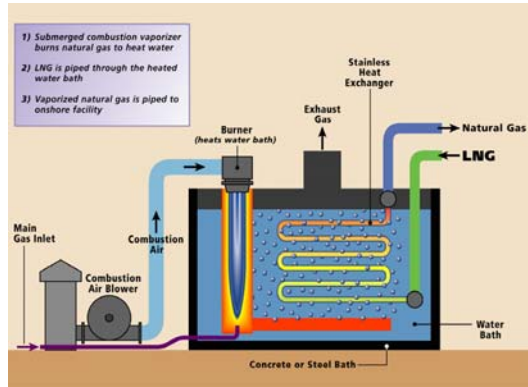
- Approx. 14 miles offshore of mainland Ventura County, CA
- Approx. 18 miles from Anacapa Island

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The proposed location for the FSRU is approximately 14 miles off of mainland Ventura County and approximately 18 miles from Anacapa Island. The two pipelines would run north from the FSRU and reach land in Oxnard, adjacent to a metering station on Ormond Beach.

## Equipment Onboard FSRU to be Permitted

### Submerged Combustion Vaporizer (SCV)



Source: Sumitomo Precision Products

- 8 SCVs
- 4 main generators
- 1 emergency generator
- 3 emergency firewater pumps
- 1 diesel storage tank

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The proposed FSRU contains several pieces of equipment that require air permits. Specifically, it contains 8 submerged combustion vaporizers, or SCVs, 4 main generators for power generation, 1 emergency generator, 3 emergency firewater pumps, and 1 diesel fuel storage tank. This equipment will be used to re-gasify the LNG to natural gas for transmission into the existing natural gas distribution system.



## Summary of Pollution Control Measures

Equipment	Control Measures
Main gen.	<ul style="list-style-type: none"> <li>• Selective catalytic reduction</li> <li>• Oxidation catalysts</li> <li>• Use of natural gas as primary fuel</li> <li>• Use of ultra-low sulfur diesel as secondary fuel</li> </ul>
SCVs	<ul style="list-style-type: none"> <li>• Low NOx burners</li> <li>• Use of natural gas as fuel</li> </ul>
Emerg. gen. & firewater pumps	<ul style="list-style-type: none"> <li>• Use of Tier 2 engines</li> <li>• Use of ultra-low sulfur diesel</li> </ul>

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Emissions from the equipment onboard the FSRU will be controlled in a number of ways. Nitrogen oxides will be reduced from the main generator engines through the use of selective catalytic reduction systems, NOx emissions from the SCVs will be controlled by low NOx burners, and emissions of carbon monoxide and organic compounds from the main generators will be controlled by oxidation catalysts. All three of these are common air pollution control technologies for stationary sources.

The emergency equipment will not have any add-on pollution control equipment but it will consist of modern Tier 2 compliant engines and the hours of operation will be limited.

The primary fuel used by the stationary equipment will be natural gas, which is cleaner burning compared to other fuels such as diesel. Diesel fuel will be used in limited situations such as emergencies and for backup purposes, but all diesel fuel will meet strict limits for sulfur content.

## Proposed Annual Emission Limits for Equipment Onboard FSRU

Pollutant	Limit (tpy)
NOx	66.05
CO	171.73
ROC	28.66
PM	12.13
SOx	0.42

**Applicability threshold for  
PSD permitting program:**

**250 tpy**

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The proposed permit contains several conditions to limit the emissions from the equipment onboard the FSRU. I will talk more about those conditions in just a minute but this slide shows the annual emission limits in the permit for all of the equipment onboard the FSRU.

The smallest amount of emissions at which the Prevention of Significant Deterioration permitting program becomes applicable for this type of facility is 250 tons per year of a single pollutant. As you can see, the emissions from the equipment would be somewhat lower in comparison.

## Marine Support Vessels

- Emissions generated from
  - LNG carriers, including LNG off-loading emissions
  - Two tug/supply boats
  - One crew boat
  - Three emergency lifeboats
- Impact minimized by use of natural gas to operate carrier, tugs, and crew boat

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In addition to the stationary equipment onboard the FSRU, emissions would also be generated from marine vessels that service the facility. Those vessels would include carriers to deliver LNG to the facility; two tug boats, which will also serve as supply boats; a crew boat to transport the crew to and from the facility; and three emergency lifeboats. BHP has made a commitment to minimize emissions from these vessels by operating them on natural gas, which generates fewer emissions than fuel traditionally used in many marine vessels.

## Additional Air Quality Improvement Projects

- Contracts to retrofit two **existing**, independently owned and operated **long-haul** tugs
- Replacing propulsion engines with Tier 2 engines
- BHP estimates >200 tpy NO<sub>x</sub> reductions along CA coast
  - EPA in process of conducting independent analysis

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In addition to minimizing emissions from the support vessels, BHP has also made a commitment to implement projects to benefit air quality in the onshore region. To do this, BHP recently entered into contracts to retrofit two existing long-haul tugs that currently operate in CA coastal waters with modern Tier 2 compliant engines. I would like to stress the fact that the tugs used for these retrofit projects are not the tugs that would service the FSRU. The tugs for these projects are in use today and they are owned and operated by two independent companies.

BHP estimates that these retrofits will reduce NO<sub>x</sub> emissions from the tugs by more than 200 tons per year. EPA is in the process of conducting an independent analysis to verify BHP's estimates. Information submitted to EPA about these projects is available on our Web site.

## **Enforcement of Mitigation Measures**

- No permit requirements regarding use of LNG in support vessels or retrofit projects
- Working with CG and MARAD to include enforceable conditions in deepwater port license and Record Of Decision

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The proposed air permit does not contain any requirements related to the use of natural gas in the support vessels or the additional air quality improvement projects. However, EPA believes it is important for the commitments made by BHP to be enforceable by federal officials. As a result, EPA is working with the Coast Guard and Maritime Administration to include enforceable conditions related to these measures in the deepwater port license and record of decision.

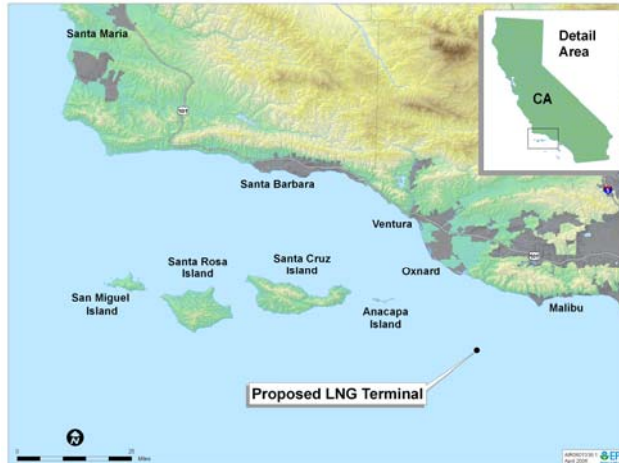
## **Regulatory Authority**

- Deepwater Port Act
- Clean Air Act
- Ventura County portion of CA State Implementation Plan

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In 2002 the Deepwater Port Act was amended to apply to natural gas ports or terminals. As Amy said before, it establishes a licensing process for such ports and also requires compliance with other federal requirements such as the Clean Air Act. As a result, EPA's underlying authority for issuing the proposed permit comes from both the Deepwater Port Act and the Clean Air Act. In addition to these requirements, the DPA states that the applicable state laws of the nearest adjacent coastal state are to be administered and enforced by the appropriate federal officials. For Cabrillo Port, this means EPA drafted the permit pursuant to the requirements of the Ventura County portion of the California State Implementation Plan.

## Air Quality Designation of Proposed Location



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The Clean Air Act requires that areas within a state be designated as either attainment, nonattainment, or unclassifiable with respect to national air quality standards. Attainment designations are given to areas within a state that meet the national standards for a given pollutant. Nonattainment designations are given to areas within a state that either do not meet the national standards or that contribute to ambient air quality in a nearby area that does not meet the national standards.

Within the Ventura County Air Pollution Control District, the mainland on-shore areas of Ventura County are classified as moderate nonattainment with respect to the 8-hour ozone standard. However, also under the jurisdiction of the Ventura County Air Pollution Control District are two islands off the coast of California. These islands and a three-mile band around each of them are designated as unclassifiable/attainment under the federal standards.

The proposed location of Cabrillo Port does not lie within the federally recognized boundaries of the state of California. As a result, this location has no air quality designation and EPA found it necessary to determine whether the attainment area or nonattainment area requirements of the Ventura County Air Pollution Control District should be applied to the FSRU for permitting purposes. EPA considered factors such as the location of the FSRU in relation to the Channel Islands and the mainland of Ventura County, the current uses of the Channel Islands, and the amount of emissions and the air quality impact to be expected from the stationary source. As a result of this consideration, EPA is proposing to permit Cabrillo Port in the same manner as sources on the Channel Islands.

## Air Permits Required for Cabrillo Port

- **Authority to Construct (ATC) – Current proposal**
  - Required prior to construction of Cabrillo Port
  - **This** is the permit EPA is currently proposing
- **Permit to Operate (PTO) - Later**
  - Proposed ATC requires BHP to obtain a PTO prior to operation of Cabrillo Port
- **Title V Operating Permit - Later**
  - Proposed ATC requires title V permit application within 12 months of startup

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Under the Ventura County rules, all stationary sources of air pollution are required to get two types of permits. The first permit is called an Authority to Construct, and it authorizes construction of the emission units. This is the permit EPA is currently proposing to issue.

The second type of permit is a Permit to Operate. This permit is required under the Ventura County rules before operation of the facility begins and it replaces the Authority to Construct. Our proposed permit requires BHP to obtain such a permit prior to operation of Cabrillo Port. To obtain it, BHP will need to submit a separate permit application to EPA. Additional opportunities for public involvement would arise when EPA processes this application, which would likely happen after a few years.

A third type of permit that BHP will be required to obtain is another kind of operating permit called a title V permit. Title V permits are required for certain sources by the federal Clean Air Act and they generally include all of the requirements of the previous permits along with some additional reporting requirements. The proposed Authority to Construct requires that BHP submit a title V permit application to EPA within 12 months after beginning operation of the facility.



## Overview of Proposed Permit

- Emission and Operational Limits
- Monitoring, Testing, and Recordkeeping Requirements
- Reporting Requirements

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As I said before, the proposed permit contains a number of conditions to restrict emissions from the equipment onboard the FSRU. To ensure BHP meets those restrictions and remains in compliance with all applicable requirements, the permit also contains a number of monitoring, testing, recordkeeping, and reporting requirements. All of these requirements would be enforceable by EPA and the public under the Clean Air Act. The following slides provide an overview of the main permit requirements.

## Overview of Proposed Permit

- Annual emission limits for NO<sub>x</sub>, CO, ROC, PM<sub>10</sub>, and SO<sub>x</sub>
- Short term limits (lb/hr, ppm) for NO<sub>x</sub>, CO, ROC, PM<sub>10</sub>, and SO<sub>x</sub> emission from SCVs and main generator engines
- Continuous use of air pollution control equipment
- 15 ppmw limit on sulfur content of all diesel used
- Limits on the quantity of natural gas used to fuel SCVs
- Annual limit on use of diesel fuel for backup purposes
- Operational restrictions on emergency equipment

- **Emission and Operational Limits**

- Monitoring, Testing, and Recordkeeping Requirements
- Reporting Requirements

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Emissions of nitrogen oxides, carbon monoxide, reactive organic compounds, particulate matter, and sulfur oxides are all regulated by the proposed permit. The permit contains the annual emission limits that I mentioned before, which apply to all of the units onboard the FSRU. In addition, the permit also contains short term limits for the SCVs and main generators. The short term emission limits are expressed both as concentrations and hourly rates, and will be shown on the next slide.

Many of the emission limits would not be achievable without the use of the pollution control equipment that I mentioned earlier. As a result, the permit requires continuous use of that pollution control equipment when the emission units are in operation.

Other limits include the diesel fuel sulfur content limit that I mentioned before, and operational restrictions such as a limit on the quantity of natural gas used to fuel the SCVs, an annual limit on the amount of diesel fuel that can be used for backup purposes, and restrictions on the emergency equipment to ensure that it is used only during emergencies and for limited maintenance purposes.

## Short Term Emission Limits for NO<sub>x</sub> and CO

Emission Unit	Pollutant	
	NO <sub>x</sub>	CO
<b>SCVs</b>	20 ppmv @ 3% O <sub>2</sub> (3-hr average) [11.17 lbs/hr]	100 ppmv @ 3% O <sub>2</sub> (3-hr average) [34.0 lbs/hr]
<b>Main Generators</b>	9 ppmv @ 15% O <sub>2</sub> (3-hr average) [5.94 lbs/hr]	20 ppmv @ 15% O <sub>2</sub> (3-hr average) [8.04 lbs/hr]

\*While equipment is fired on natural gas

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Here are the short term limits for NO<sub>x</sub> and CO for the SCVs and main generators while operating on natural gas.

## Overview of Proposed Permit

- Continuous monitoring of NO<sub>x</sub> and CO emissions from main generators and SCVs
  - Periodic performance tests for NO<sub>x</sub>, ROC, CO, and PM
  - Periodic testing of NG sulfur content
  - Monthly emissions calculations based on continuous monitoring and testing data
  - Recordkeeping for all monitoring and testing
- Emission and Operational Limits
  - **Monitoring, Testing, and Recordkeeping Requirements**
  - Reporting Requirements

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The monitoring, testing, and recordkeeping requirements in the proposed permit are designed to ensure that BHP remains in compliance with all of the permit conditions and the underlying rules and regulations. The proposed requirements include continuous monitoring of NO<sub>x</sub> and CO emissions from the main generators and SCVs; periodic performance tests for NO<sub>x</sub>, reactive organic compounds, carbon monoxide, and particulate matter; periodic testing of the natural gas sulfur content; and monthly emissions calculations based on the continuous monitoring and testing data. The permit contains recordkeeping requirements for each monitoring and testing condition so enforcement personnel can verify that compliance has been maintained.

## Overview of Proposed Permit

- Violations of any emission limit within 96 hours
  - Breakdowns within 4 hours of discovery
  - Source test results
  - Semi-annual reporting
    - Summary of exceedances and breakdowns
    - CEMS performance
    - CEMS repairs
  - Actual emissions of NO<sub>x</sub> and ROC from all permitted equipment (annually)
- Emission and Operational Limits
  - Monitoring, Testing, and Recordkeeping Requirements
  - **Reporting Requirements**

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Some of the reporting requirements in the proposed permit are intended to alert EPA when there is a problem. For example, the permit requires BHP to report violations of any emission limit within 96 hours of the violation, and breakdowns of equipment within 4 hours of discovery. Other requirements include reporting of all source test results, semi-annual reporting of information related to the performance and maintenance of the continuous monitoring systems, and annual reporting of the actual emissions of NO<sub>x</sub> and reactive organic compounds from all of the permitted equipment. Additional reporting requirements such as an annual compliance certification would be added in the title V permit for the facility.

## For More Information

<http://www.epa.gov/region09/liq-natl-gas/index.html>

- Air Permit
  - Joe Lapka, 415-947-4226
- Water Permit
  - Eugene Bromley, 415-972-3510

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Hopefully this presentation has given you a basic understanding of the permitting process and the proposed permit. You can find additional information about the air and water permits proposed by EPA by visiting our Web site at the address shown here. If you don't find what you are looking for on the Web site, please feel free to contact me for information related to the air permit. And for information about the water permit you can contact Eugene Bromley.

## To Submit Comments

### Air Permit

[cabrilloportpermit@epa.gov](mailto:cabrilloportpermit@epa.gov)

OR

Joseph Lapka  
USEPA  
AIR-3  
75 Hawthorne St.  
San Francisco, CA 94105

**Deadline: July 3, 2006**

### Water Permit

[honor.lisa@epa.gov](mailto:honor.lisa@epa.gov)

OR

CWA Standards and Permits Office  
USEPA  
WTR-5  
75 Hawthorne Street  
San Francisco, CA 94105

**Deadline: June 20, 2006**

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Written comments on both of the permits may be submitted electronically or in hard copy using the appropriate addresses shown here. Please remember that all comments on the air permit must be received or postmarked by July 3, 2006 and all comments on the water permit must be received or postmarked by June 20.

Before we begin taking oral comments, I would like to remind everyone again that today's hearing is for the air permit. A hearing for the water permit was held at the end of May so if you have comments on it we ask that you submit them in writing and focus your presentations today on the air permit.

This concludes our presentation, and I'll now turn it back over to Joanna. Thank you for your time.

**END**